

A NEW SPECIES OF LASTREOPSIS (ASPIDIACEAE) FROM NORTH-EAST QUEENSLAND

by

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SYNOPSIS

Lastreopsis grayi is described as a new species from the rainforests of the Atherton Tableland in north-eastern Queensland. Its closest congener is another as yet undescribed *Lastreopsis*.

INTRODUCTION

Tindale (1957, 1961a, 1961b, 1965) has revised the genus *Lastreopsis* and discussed in detail the species which occur in Australia.

In August 1971 the author collected *Lastreopsis* species in the Tinaroo Hills on the Atherton Tableland of north-eastern Queensland. Among the specimens were several of a slender undescribed species with deeply dissected fronds and a solitary specimen of a similar but coarser species. Further specimens of both species were located in subsequent trips into the area during May 1972 and November 1974. The slender species will be described by Tindale in a forthcoming issue of *Telopea*. The coarser species is here described as new.

Lastreopsis grayi D. L. Jones, sp. nov.

Rhizoma erectum, 1.0–2.5 cm crassum, paleis sparse praeditum (plantis vetustioribus rhizomates secundaria axillares generantibus); *paleae* 1.0–2.5 mm longae, plerumque anguste lanceolatae badiaequae, ad marginem et basin rotundatam versus pallidiores, earum marginibus fimbriis expansis irregularibus sparse praeditis, apice obtuso vel attenuato; *stipites* 10–40 cm longi, circiter 3 mm lati, erecti, virides vel viridi-brunnei, nitidi, ad basin flexuosi, pilis parvis appressis sparse ornati (praesertim in canaliculo), ad basin paleis sparsis similibus illis in rhizomati; *rhachides* patenter alatae, virides vel viridi-brunneae, leves, in canaliculo a pilis parvis ornatae; *lamina* anguste triangularis, 15–40 cm longa, 10–35 cm lata, tripinnatifide vel quadripinnate dissecta, pallide vel saturate viridis, glabra, nitens; *pinnae primariae* infimae maximaeque 8–16 cm longae, 3–10 cm latae, ad rhachidem primam oblique inclinantes, basicopice dilatatae, apice attenuato dentato-serratoque; *pinnae secundariae* ad rhachidem secundariam obliquae, illis basalibus anguste alatis, illis superioribus late alatis adnatisque, apice attenuato dentato-serratoque; *segmenta ultima* pedicellis alatis praedita, alternantia, oblonga, aliquando falcata, non congesta, apice obtuso, subter glabra vel a glandibus flavis ornata; *venae* in superficie submersae et non prominentes, infra clariores liberae simplices vel unifurcatae; *costae et costulae* glabrae vel a pilis parvis atque glandibus flavis sparse vestitae; *venulae* similes; *sori* exindusiati, orbiculares, 0.5–1.0 mm lati, marginales (in parte interiore loborum), ad apicem venularum gesti, juveniliter albi, mature ferruginei vel fusco-brunnei; sporangia 90–140 per sorum, eorum annulo c.12–15 cellulas induratas et 6–10 cellulas tenues comprehendenti, pedicello c.5-cellulari pilum stipitatum oblongum aurantiacum glandulosumque gerenti; *sporangia* bilaterales, globoso-ellipsoidales, fulvae.

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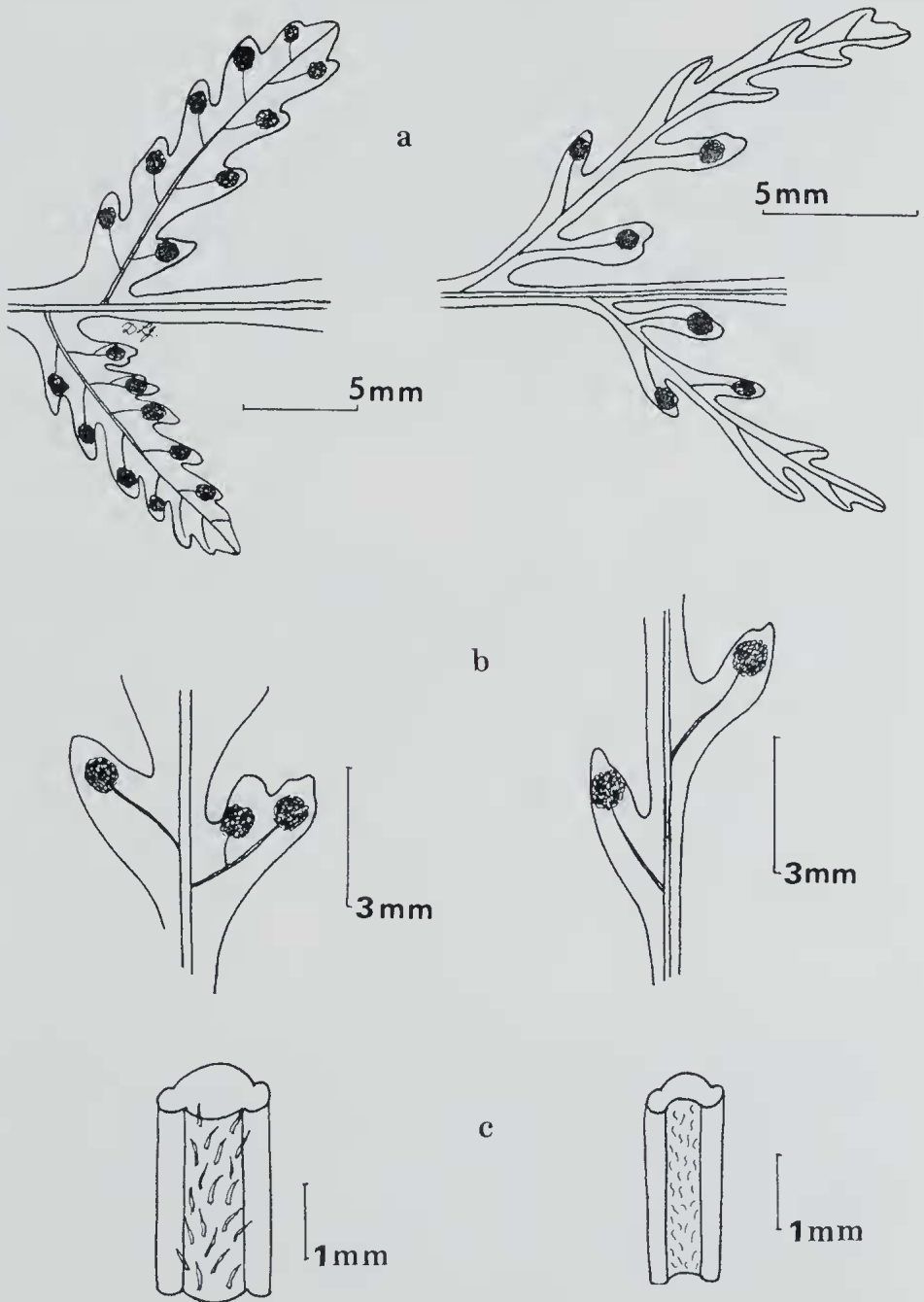
HOLOTYPE: Queensland, Cook District; rainforest along small creek in Lamb Range (Tinaroo Hills), 2 kilometres south-west of Mt. Haig, Atherton Tableland, at about 1000 m altitude. (17°06'S; 145°34'E.), D. L. Jones, B. Gray & R. Collins, xi. 1974 (BRI).

ISOTYPES: BRI, NSW, MEL.

Rhizome erect, 1–2.5 cm broad, in older plants producing secondary axillary rhizomes and becoming multi-crowned, sparsely clothed with scales; scales 1–2.5 mm long, some ovate and pale but most dark brown, narrow-lanceolate, paler towards the rounded base and the margin, the margins sparsely clothed with irregular spreading fimbriae, the apex obtuse or drawn out; stipes 10–40 cm long and about 3 mm wide, erect, green or greenish-brown, shiny, flexuose at the base, clothed sparsely with small appressed hairs especially in the groove, the scales of the base sparse and similar to those on the rhizome; *minor rhachises* conspicuously winged, green or greenish-brown, smooth, clothed with small hairs in the channel; *lamina* narrow triangular in outline, 15–40 cm long x 10–35 cm wide, 3-pinnatifid or 4-pinnate, anadromous, dissected and lacy, pale or dark green, shiny, glabrous; *lowest primary pinnae* the largest, 8–16 cm long and 3–10 cm wide, obliquely set to the main rhachis, basis-copically enlarged, the apex attenuated and dentate/serrate; *secondary pinnae* oblique to the secondary rhachis, the basal ones narrowly winged, the upper ones broadly winged and adnate, the apex attenuate and dentate/serrate; *ultimate segments* with winged pedicels, alternate, oblong, occasionally falcate, not crowded, the apex obtuse, undersurface glabrous or with small yellow glands; *veins* on the upper surface submerged and not prominent, those on the lower surface more prominent, free, simple or once forked; *costae* and *costules* glabrous or sparsely clothed with small hairs and yellow glands; *veinlets* similar; *sori* 0.5–1 mm in diameter, exindusiate, rounded, borne at the apex of veinlets, marginal, on the inner side of lobes, white when young, rusty brown or dark brown when mature; *sporangia* 90–140 per sorus; annulus composed of about 12 to 15 indurated cells and 6–10 thin walled cells; pedicel of about 5 cells, often bearing a stalked oblong, orange glandular hair; *spores* bilateral, monolete, globose-ellipsoid, yellow-brown; *perispore* crested, with balloon-like wings.

DISTRIBUTION AND ECOLOGY

Lastreopsis grayi is only known from scattered localities in the Tinaroo Hills of north-eastern Queensland. It always occurs in dense rainforest, usually along small creeks and gullies, growing both in the soil and leaf litter of the rainforest floor as well as on rocks. Plants are often solitary or in small scattered colonies.



Lastreopsis grayi

***Lastreopsis* sp.**

Fig. 1.—a—Part of secondary rhachis and ultimate segments; b—Lobes of ultimate segments with sori; c—Section of rhachis.

DISCUSSION

Lastreopsis grayi is a rare species, the closest congener of which is another undescribed *Lastreopsis*. This latter species is more common and widespread than *L. grayi*, usually grows in fairly large colonies and is easily recognised by the very fine, lacy, deeply dissected fronds. The differences between the two are shown in Table I and some comparisons are made in the accompanying figure. Both species are readily distinguished from other native *Lastreopsis* with erect tufted rhizomes by the finely dissected, lacy fronds, the blunt segments lacking spines, and the exindusiate sori.

<i>Lastreopsis</i> sp.	<i>Lastreopsis grayi</i>
stipes shallowly grooved, the hairs about 0.1 mm long	stipes deeply grooved or ridged, the hairs about 0.3–0.5 mm long
secondary rhachises inconspicuously winged	secondary rhachises conspicuously winged
ultimate segments deeply lobed, the lobes long and widely spaced	ultimate segments shallowly lobed, the lobes short and closely spaced
sori one per lobe, each sorus of up to 50 sporangia	sori 1–4 per lobe, each sorus of up to 140 sporangia

Table 1.—Contrasting characters.

The rarity of *L. grayi* prompted speculation that the species was a hybrid. A thorough study of two colonies during November 1974 showed nothing to support this hypothesis. Significantly, there were no species in the localities with the characters necessary to create the progeny. The only other *Lastreopsis* nearby were *L. rufescens* (Bl.) Ching and *L. wurunuran* (Domin) Tindale, both villous, coarse-leaved species. It was interesting to note that there were many sporelings of *L. grayi* present in one colony and these were readily recognisable as the species. Sporelings have been raised by the author and have come true to type.

The epithet *grayi* is a tribute to Mr. Bruce Gray of Atherton. He is a very observant collector with a unique knowledge of north Queensland flora, and has many interesting botanical discoveries to his credit.

ACKNOWLEDGEMENTS

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A NEW COMBINATION IN PULTENAEA JUNIPERINA Labill. (PAPILIONACEAE)

by

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Pultenaea juniperina Labill. in *Nov. Holl. Plant. Specim.* **1**:102, t.130 (1806) var. ***mucronata*** (Benth) M. G. Corrick, comb. nov.

Pultenaea flexilis Sm. in *Ann. Bot.* **1**:502 (1805) var. *mucronata* Benth in *Fl. austr.* **2**:135 (1864).

Pultenaea juniperina Labill. var. *planifolia* H.B. Williamson in *Proc. Roy. Soc. Vict. new ser.* **33**:138 (1921).

The holotype of *Pultenaea flexilis* var. *mucronata* Benth. is a "Clarence river, Beckler" collection, of which material is held at the Royal Botanic Gardens, Kew (K—photograph seen) and National Herbarium of Victoria (MEL 515976). *P. juniperina* var. *planifolia* Williamson is based partly on the same Clarence River collection and the name is therefore illegitimate and must be rejected (Article 63, International Code of Botanical Nomenclature). Williamson's placement of the variety under *P. juniperina* rather than under *P. flexilis* is botanically correct and the new combination of *P. juniperina* var. *mucronata* is therefore necessary.

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